

**OVERVIEW OF THE  
KUSKOKWIM AREA SALMON FISHERY  
2001-2003**

**A REPORT TO THE  
ALASKA BOARD OF FISHERIES**



By

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## INTRODUCTION

The Kuskokwim Management Area includes the Kuskokwim River drainage, all waters of Alaska that flow into the Bering Sea between Cape Newenham and the Naskonat Peninsula, and Nunivak and St. Matthew Islands (Figure 1). There are four commercial salmon fishing districts: 1, 2, 4, and 5.

District 1, the Lower Kuskokwim River, consists of the Kuskokwim River the southernmost tip of Eek Island upstream to a line between ADF&G regulatory markers located at Bogus Creek, about nine miles above the Tuluksak River. The downstream boundary has been in effect since 1986, and the upstream boundary was established in 1994. In conjunction with the establishment of the District 1 registration regulation (5 AAC 07.370) in 2000, District 1 was divided into two subdistricts. Subdistrict 1A consists of that portion of District 1 upstream from a line between regulatory markers located at the downstream end of Steamboat Slough. Subdistrict 1B consists of that portion of District 1 downstream from the Steamboat Slough regulatory markers.

District 2, the Middle Kuskokwim River, consists of the Kuskokwim River from ADF&G regulatory markers located at the upstream entrance to the second slough on the west bank downstream from Kalskag to the regulatory markers at Chuathbaluk. The downstream boundary of District 2 was used for the first time in 1990.

District 4 was established in 1960. The boundaries of District 4 extend from the northern-most edge of the mouth of Oyak Creek to the southern-most tip of the south mouth of the Arolik River, and extend 3 miles from the coast into Kuskokwim Bay. Prior to 2001, the northern most boundary of the district was the northern most edge of Weelung Creek. The northern boundary was moved three miles south to Oyak Creek by regulation during the 2001 Alaska Board of Fisheries (Board) meeting to lower the harvest potential of Kuskokwim River bound chinook and chum salmon harvested in the District 4 commercial fishery. The Kanektok and Arolik Rivers are the main spawning streams in the district. The village of Quinhagak is located at the mouth of the Kanektok River.

The District 5 commercial salmon fishery was established in 1968. The boundaries of District 5 extend from the southern most tip of the north spit to the northern most tip of the south spit at the entrance of Goodnews Bay, extending east to a line between the mouth of Ukfigag Creek to the mouth of the Tunulik River. The Goodnews River drainage is the main spawning drainage in the district. The Goodnews and Middle Fork Goodnews rivers are the primary spawning rivers within the drainage.

In the last 20 years (1983-2002), Kuskokwim Area commercial salmon harvests have averaged 51 thousand chinook, 383 thousand chum, 132 thousand sockeye, 499 thousand coho, and 14 thousand pink salmon. The value of Kuskokwim Area commercial salmon fishery has averaged \$2.2 million over the last 10 years (Table 1). The recent 5-year average was \$900 thousand because of smaller runs, lower prices, and minimal markets.

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Subsistence salmon harvests since 1985 have averaged approximately 253 thousand fish, of which 80 thousand fish, on average, have been chinook salmon. The 2002 total subsistence salmon harvest estimates for the Kuskokwim Area was 70,219 chinook, 73,234 chum, 27,733 sockeye, and 34,413 coho salmon (Table 2). Residents of communities located from Tuluksak downstream to Tuntutuliak took 76 percent of the total estimated subsistence salmon harvest in the Kuskokwim Area. The estimated salmon harvest by the community of Bethel represented 27 percent of the total estimated harvest in the Kuskokwim Area. Bethel comprises 33 percent of the total households in the region.

The management objective for all districts in the Kuskokwim Area is to manage the fisheries in a manner that will result in sustained yield of salmon stocks large enough to meet escapement goals, amounts necessary for subsistence and for fisheries other than subsistence.

## **2001-2003 COMMERCIAL SALMON FISHERY**

The Kuskokwim Area commercial salmon fishery harvests during the last three years has been poor due to the low yield of Kuskokwim River chinook and chum salmon from 1997 to 2003, low prices and poor market conditions. Although District 4 and District 5 fisheries occurred as during previous years, the low prices resulted in low effort and subsequent low harvest levels. In response to the guidelines established in the *Sustainable Salmon Fisheries Policy* (SSFP) 5 AAC 39.222, the Board designated Kuskokwim River chinook and chum salmon stocks as yield concerns, under the stock of concern status classification, at the September 2000 work session. Action plans were subsequently developed by the department and acted upon by the Board in January 2001. In response to the Kuskokwim River "yield concern" designation there has been no commercial fishing in June and July in the Kuskokwim River from 2001 to 2003.

### ***Kuskokwim River (District 1 and 2).***

The subsistence-fishing schedule was implemented by emergency order during the 2001-2003 seasons consistent with the progression of the run upriver. A directed commercial fishery for chum salmon would have been allowed in 2002 and 2003, except there were no buyers interested in chum salmon. The extremely poor market for chum salmon is not expected to change in the near future. Coho salmon directed commercial fisheries occurred in District 1 during the 2001-2003 seasons. There was no interest from buyers to purchase fish in District 2 due to market conditions. Commercial harvest, fishery value, fishing effort and price during 2001-2003 were at historic low levels. A coho salmon directed fishery occurred in August of each year with harvests ranging from 83,500 fish to 284,000 fish (Tables 3-5). Low prices, low effort and limited processor capacity dominated the problems associated with the fisheries. Division of District 1 into two subdistricts and registration of fishers to a subdistrict (5 AAC 07.370) allowed for fishing periods to be of shorter length, which kept harvest within processor capacity. During the 2003 season when coho were abundant, a twice weekly scheduled was implemented for the month of August for both subdistricts.

Chinook salmon escapements are evaluated by aerial survey during most years in portions of at least 13 drainages of the Kuskokwim River and by weirs on six tributary streams (Table 6). A radio mark-recapture program has been conducted the last two seasons (Table 7). This program estimates total chinook salmon passage upstream of the village of Upper Kalskag. Additionally, chinook salmon escapements are monitored at weirs on six tributary streams. Review of escapement information indicates chinook salmon escapements from 1998 through 2000 were generally below established goals. However, chinook salmon escapements were generally met from 2001 through 2003. Weather conditions precluded aerial survey evaluation of chinook salmon escapements in many streams during 1998 and 1999. Chinook salmon escapement at the Kogrukluk River weir exceeded the goal in 1998 with passage of 12,100 fish. In the following years, 1999 and 2000, chinook salmon escapements passed the Kogrukluk River weir were poor, accounting for only 56% and 33% of the established sustainable escapement goal (SEG) of 10,000 chinook salmon. Chinook salmon passage at the Kogrukluk River weir in 2001 was 7% below the SEG; however, the SEG was exceeded in 2002 and 2003.

Chum salmon escapements (Table 7) are evaluated through enumeration at weirs on six tributary streams, and sonar in the Aniak River. Additionally, during the last two seasons, the chum salmon run has been assessed by a mainstem mark and recapture project near Upper Kalskag. Because only low numbers of chum salmon are harvested for subsistence above Upper Kalskag, the estimate from the mark-recapture project can be viewed as an estimate of the chum salmon escapement to the Kuskokwim River drainage above Upper Kalskag. Review of escapement information indicates chum salmon escapements from 1999 through 2000 were below average. Since 2000, escapements were average or better, with the exception that the passage at the Aniak River was 9% below the SEG in 2001. The Aniak River SEG of 250,000 fish was exceeded in 2002 and 2003.

#### ***Quinhagak (District 4)***

The objective of the District 4 Management Plan 5 AAC 07.367 is to maintain a level of sustained yield which will provide of subsistence needs, the economic long-term health of the commercial and sport fishing industries and recreational fishing opportunities, in the district and freshwater systems flowing into the district. The management plan further provides direction to open the commercial fishery prior to June 16, open commercial periods by emergency order and to provide at least one period per week unless a severe conservation problem exists. Commercial fishing periods are typically 12 hours in duration. Commercial fishing period frequency is based on catch rates compared to prior year catch rates in association with escapement levels. During the 2001-2003 seasons the fishery was put on a schedule with the 2001 season opening June 21, later than directed by the management plan, since no processor was available.

Typically a fishing schedule of two-12 hour periods is established during June targeting chinook salmon, with three 12-hour periods per week scheduled during July targeting sockeye salmon. During the 2001 to 2003 seasons the single registered buyer ceased operation during the last week to 10 days of July when there is declining abundance of sockeye salmon. In early August, the fishery was reopened on a schedule of three-12 hour periods per week targeting coho salmon. Fishing periods were cancelled when catch rates were below average, or when no processor or tender was available. During the 2003, season the processor put fishers on catch limits during one period to assure those fish harvested could be processed.

During the period, 2001 to 2003, the commercial salmon harvest ranged from 82,322 salmon in 2001 to 1265,086 salmon in 2003. The ex-vessel value ranged from \$167,615 in 2002 to \$303,408 in 2003 (Tables 3-5). An average of 139 fishers participated in the fishery during these years. Chinook salmon made up approximately 13% of the harvest with sockeye (29%), chum (25%) and coho (32%) salmon accounting for the remaining harvest.

Aerial surveys of salmon escapements to the Kanektok River were conducted during 2001 and 2003 for chinook, sockeye, and chum salmon. The chinook salmon escapement objective of 5,800 fish was achieved in 2001 (6,483 fish), however, the 2003 escapement was 7% below the objective (Table 8). The sockeye salmon escapement goal of 15,000 fish was achieved in both 2001 and 2003; however, the chum goal of 30,500 fish was not achieved during either year. A weir was operated on the Kanektok River at River Mile 45 from June 24 to September 18, 2003. Over 8,000 chinook, 27,000 sockeye, 40,000 chum and 72,000 coho salmon were enumerated (Table 7). However, a significant number of chinook and chum salmon spawn below the weir.



### ***Goodnews Bay (District 5)***

There is no management plan that directs the District 5 commercial fishery, however, the primary fishery strategy since 1990 has been to delay the commercial opening until late June to increase chinook salmon escapements into the Goodnews River drainage and assure amounts necessary for subsistence will be achieved. The fishery typically opens the last week of June. Commercial fishing periods are typically 12 hours in duration. Commercial fishing period frequency is based on catch rates compared to prior year catch rates in association with prior year escapement levels.

Typically the fishing schedule begins the last week of June with three 12-hour periods scheduled per week. During the 2001 to 2003 seasons the single registered buyer ceased operation during the last week to 10 days of July when there is declining abundance of sockeye salmon. In early August, the fishery was reopened on a schedule of three-12 hour periods per week targeting coho salmon. Fishing periods were cancelled when catch rates were below average, or when no processor or tender was available. During the 2003 season, the processor put fishers on catch limits during one period to assure those fish harvested could be processed.

During the period, 2001 to 2003, commercial salmon harvests ranged from 14,123 in 2002 to 49,086 in 2003. Value of the fishery to the fishers ranged from 24,802 in 2002 to \$135,109 in 2003 (Tables 3-5). An average of 32 fishers participated in the fisheries during this period. Chinook salmon made up approximately 11% of the harvest with sockeye (55%), chum (12%) and coho (22%) salmon accounting for the balance of the harvest (Tables 3-5).

Aerial surveys of salmon escapements to the Goodnews River were conducted during 2001 to 2003 for chinook, sockeye, and chum salmon (Table 9). The chinook salmon escapement goal of 1,600 fish was exceeded in 2001 and 2003, the sockeye escapement goal of 15,000 fish was exceeded in 2003 and the chum escapement goal of 17,000 fish was not achieved during any of the years. A weir was operated at River Mile 15 on the Middle Fork Goodnews River during 2001-2003. The chinook salmon escapement goal of 3,500 fish was achieved in 2001, the sockeye salmon escapement goal of 25,000 fish was achieved in 2003 and the chum salmon escapement goal of 15,000 fish was exceeded each year (Table 7). There is currently no escapement goal for coho salmon. The coho salmon escapement ranged from 20,000 to 50,000 coho salmon during 2001 to 2003.

## **SUMMARY**

The salmon stocks in Kuskokwim Area are biologically healthy; escapement goals are being met or exceeded the majority of the time and amounts necessary for subsistence are being achieved annually (Table 7). Commercial harvests have fluctuated between years with fishing effort, harvest and value during the last three years at historic low levels.

Board proposals pertaining to the District 4 and 5 commercial salmon fisheries are as follows:

Proposal 138. Move the District 4 northern boundary from Oyak Creek to Weelung Creek increasing the size of the district.

Proposal 139. Extend the western boundary of the District W-5 boundary slightly outside of Goodnews Bay, to a line drawn from a point located 2 miles up the coastline from the entrance of Goodnews Bay, to a point located 2 miles down the coastline from the entrance of Goodnews Bay. The eastern boundary would remain the same.

Proposal 140. Delay the opening of the District 4 fishery until after June 16.

Proposal 141. Increase the aggregate length of gillnets from 50 to 100 fathoms in Districts 4 and 5.

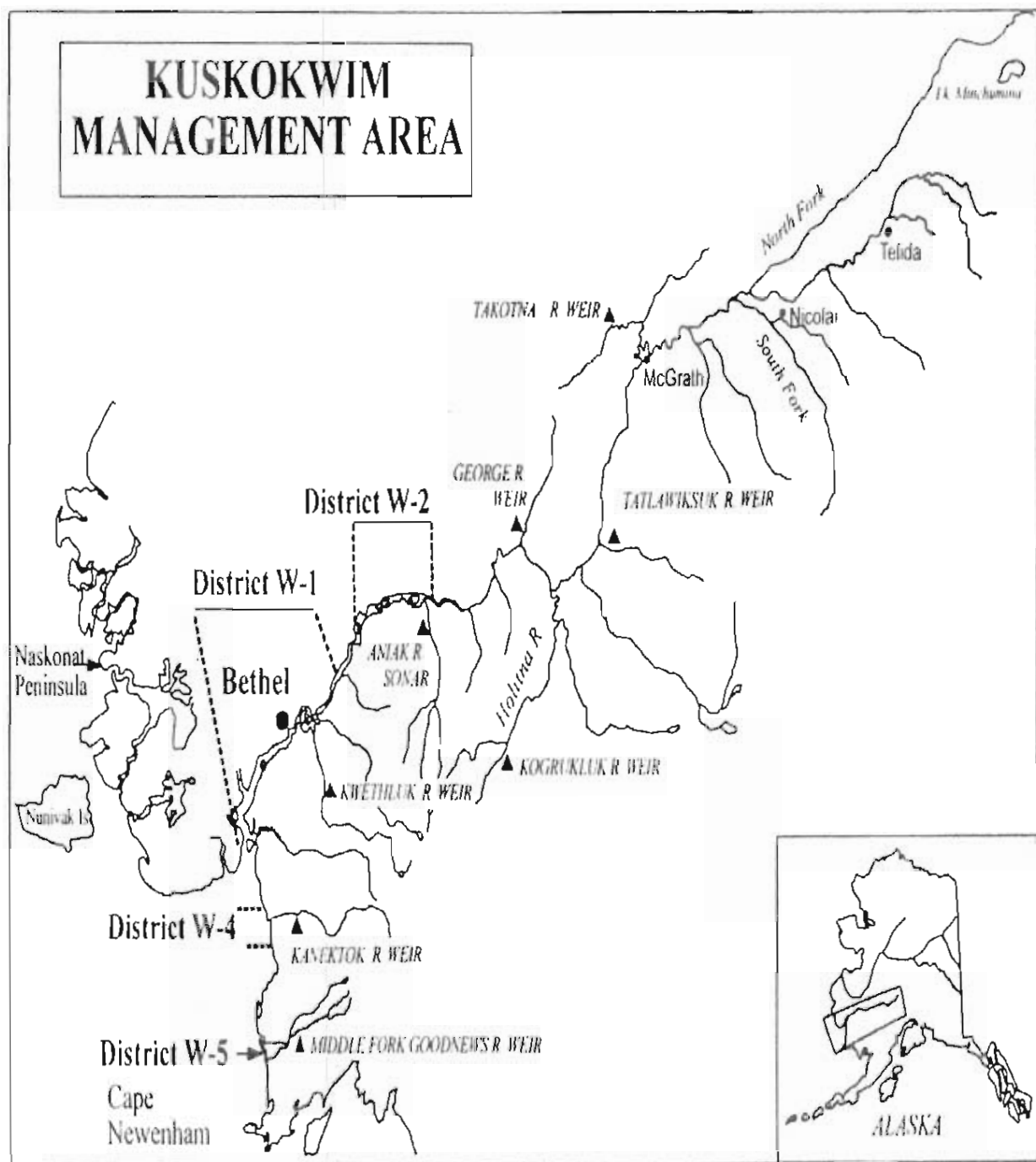


Figure 1. Kuskokwim Salmon Management Area.

Table 1. Estimated ex-vessel value, permits fished and average income of the Kuskokwim Area commercial salmon fishery, 1964-2003.

Year	Gross Value (\$) of Catch to Fishermen	Permits Fished <sup>a</sup>	Average Income
1964	83,030		
1965	90,950		
1966	87,466		
1967	138,647		
1968	290,370		
1969	297,233		
1970	362,470		
1971	371,220		
1972	360,727		
1973	827,735		
1974	1,056,042		
1975	899,178		
1976	1,380,229		
1977	3,891,950		
1978	2,337,470		
1979	3,678,000		
1980	2,725,134		
1981	3,766,525		
1982	4,213,954		
1983	2,670,400		
1984	5,809,000	774	7,505
1985	3,248,089	781	4,159
1986	4,746,089	789	6,015
1987	6,392,822	798	8,011
1988	12,514,489	811	15,431
1989	5,171,860	824	6,277
1990	4,894,580	824	5,940
1991	3,971,423	820	4,843
1992	5,295,912	814	6,506
1993	3,962,890	807	4,911
1994	5,201,611	797	6,526
1995	4,209,752	829	5,078
1996	2,900,603	713	4,068
1997	1,058,808	702	1,508
1998	1,634,495	707	2,312
1999	551,725	604	913
2000	1,197,149	623	1,922
2001	749,916	514	1,459
2002	322,679	407	793
2003	856,950	438	1,957
Ten year Average (1993-2002)	2,178,963	670	2,949

a Number of permits that made at least one delivery

Table 2. Kuskokwim Area subsistence salmon harvest, 2002.

			Chinook		Chum		Sockeye		Coho		Total	
	Total HH's Contacted	HH's	Reported Harvest	Est.* Total	Reported Harvest	Est.* Total	Reported Harvest	Est.* Total	Reported Harvest	Est.* Total	Reported Harvest	Est.* Total
1 Kipnuk	176	1	1	1	5	5	11	11	69	69	86	86
2 Kwigillingok	95	0	0	0	0	0	0	0	0	0	0	0
3 Kongiganak	81	51	772	808	1883	1965	739	774	568	596	3962	4143
N. KUSKOKWIM BAY	352	52	773	809	1888	1970	750	785	637	665	4048	4229
4 Tuntutuliak	76	64	3081	3632	3260	3845	824	972	981	1153	8146	9602
5 Eek	73	54	1959	2432	1004	1259	604	748	704	904	4271	5343
7 Kasigluk	136	5	381	381	306	306	59	59	142	142	888	888
8 Nunapitchuk	102	81	3206	3883	5703	6917	1122	1382	644	790	10675	12972
9 Atmautluak	56	46	1215	1282	2125	2189	987	1015	536	591	4863	5077
10 Napakiak	90	66	1931	1931	2391	2391	1201	1201	578	578	6101	6101
11 Napaskiak	83	60	2729	3856	2632	3720	908	1292	503	716	6772	9584
12 Oscarville	13	12	953	953	1121	1121	377	377	119	119	2570	2570
13 Bethel	1499	1312	16748	19305	13078	15082	6382	7350	11274	12966	47482	54703
14 Kwethluk	156	113	4902	6429	5682	7434	1501	1993	1920	2515	14005	18371
15 Akiachak	131	101	5540	6860	4089	5048	1996	2436	1321	1620	12946	15964
16 Akiak	71	55	2632	3340	2008	2527	942	1195	881	1113	6463	8175
17 Tuluksak	80	55	1920	2364	2470	3042	822	1011	963	1181	6175	7598
LOWER KUSKOKWIM	2566	2024	47197	56648	45869	54881	17725	21031	20566	24386	131357	158948
18 Lower Kalskag	69	56	1088	1210	1072	1187	221	247	221	241	2602	2885
19 Upper Kalskag	59	44	1251	1420	2153	2333	433	485	909	1032	4746	5270
21 Aniak	165	163	2959	2994	2967	3002	715	723	2585	2616	9226	9335
23 Chuathbaluk	30	22	493	663	1156	1553	250	337	455	607	2354	3160
MIDDLE KUSKOKWIM	323	285	5791	6287	7348	8075	1619	1792	4170	4496	18928	20650
25 Crooked Creek	34	28	713	790	1212	1266	401	413	405	420	2731	2889
27 Red Devil	14	10	180	246	236	325	67	92	300	413	783	1078
28 Sleetmute	34	27	426	516	913	1105	498	603	589	689	2406	2913
31 Stony River	15	13	262	293	507	560	412	460	466	517	1647	1830
32 Lime Village	17	0	0	0	0	0	0	0	0	0	0	0
33 McGrath	136	118	649	700	834	665	309	323	996	1067	2588	2755
34 Takotna	20	16	8	9	1	1	0	0	20	20	29	30
36 Nikolai	36	30	484	507	171	171	0	0	105	105	760	783
37 Telida	2	0	0	0	0	0	0	0	0	0	0	0
UPPER KUSKOKWIM	308	242	2722	3063	3674	4093	1687	1891	2861	3231	10944	12278
KUSKOKWIM RIVER	3549	2603	56483	66807	58779	69019	21781	25499	28234	32780	165277	194105
38 Quinhagak	139	101	1880	2475	1381	1839	650	855	844	1099	4755	6266
39 Goodnews Bay	55	43	561	703	247	312	630	794	162	202	1600	2011
40 Platinum	16	12	112	154	69	95	187	256	70	95	438	600
S. KUSKOKWIM BAY	210	156	2553	3332	1697	2246	1487	1905	1076	1396	6793	8879
41 Mekoryuk	94	18	12	12	1292	1292	204	204	114	114	1622	1622
42 Newtok	79	5	13	13	20	20	85	85	0	0	118	118
43 Nightmute	68	3	0	0	0	0	0	0	0	0	0	0
44 Toksook Bay	136	8	54	54	657	657	32	32	74	74	817	817
45 Tununak	110	5	1	1	0	0	8	8	49	49	58	58
BERING SEA COAST	487	39	80	80	1969	1969	329	329	237	237	2615	2615
46 Chefomak	93	0	0	0	0	0	0	0	0	0	0	0
TOTALS	4,339	2,798	59,116	70,219	62,445	73,234	23,577	27,733	29,547	34,413	174,685	205,599

\* If less than 30 or 50% of households in a stratum in a community were contacted, then reported harvest is used for estimated harvest.

NOTE: Includes harvests using rod and reel and the removal of salmon from commercial harvests as well as subsistence nets.

Table 3. Harvest and ex-vessel value of Kuskokwim Area salmon catch by district, 2001.

<u>Lower Kuskokwim River, District 1</u>						
	<u>Chinook</u>	<u>Sockeye</u>	<u>Coho</u>	<u>Pink</u>	<u>Chum</u>	<u>Total</u>
Fish	90	84	192,998	0	1,272	194,444
Pounds	1,484	663	1,457,147	0	8,274	1,467,568
Price	0.36	0.40	0.29		0.10	
Value	\$534	\$265	\$422,573	\$0	\$827	\$424,199
<u>Ave. 1991-2000</u>						
Fish	17,427	49,917	440,303	4,600	208,897	721,144
Value	\$132,709	\$232,606	\$1,303,209	\$1,140	\$315,119	\$1,984,864
<u>Middle Kuskokwim River, District 2:</u>						
<u>No commercial fishery during 2001</u>						
	<u>Chinook</u>	<u>Sockeye</u>	<u>Coho</u>	<u>Pink</u>	<u>Chum</u>	<u>Total</u>
<u>Ave. 1991-2000</u>						
Fish	655	875	13,457	9	7,410	22,406
Value	\$6,163	\$4,073	\$41,446	\$3	\$10,054	\$61,739
<u>Quinhagak, District 4</u>						
	<u>Chinook</u>	<u>Sockeye</u>	<u>Coho</u>	<u>Pink</u>	<u>Chum</u>	<u>Total</u>
Fish	12,775	33,807	18,531	0	17,209	82,322
Pounds	256,733	254,165	162,886	0	129,068	802,852
Price	0.36	0.35	0.20	0	0.10	
Value	\$92,424	\$88,958	\$32,577	\$0	\$12,907	\$226,866
<u>Ave. 1991-2000</u>						
Fish	20,210	61,451	60,338	11,386	54,677	208,062
Value	\$142,476	\$251,011	\$193,292	\$2,630	\$72,022	\$661,431
<u>Goodnews Bay, District 5</u>						
	<u>Chinook</u>	<u>Sockeye</u>	<u>Coho</u>	<u>Pink</u>	<u>Chum</u>	<u>Total</u>
Fish	1,519	25,654	9,275	0	3,412	39,860
Pounds	29,991	196,224	85,448	0	25,864	337,527
Price	0.35	0.35	0.20		0.10	
Value	\$10,497	\$68,678	\$17,090	\$0	\$2,586	\$98,851
<u>Ave. 1991-2000</u>						
Fish	2,547	39,466	20,465	3,629	14,937	81,044
Value	\$17,862	\$173,290	\$77,858	\$857	\$20,538	\$290,405
<u>Kuskokwim Area Total</u>						
	<u>Chinook</u>	<u>Sockeye</u>	<u>Coho</u>	<u>Pink</u>	<u>Chum</u>	<u>Total</u>
Fish	14,384	59,545	220,804	0	21,893	316,626
Pounds	288,208	451,052	1,705,481	0	163,206	2,607,947
Price	0.36	0.35	0.28	0	0.10	
Value	\$103,455	\$157,901	\$472,239	\$0	\$16,321	\$749,916
<u>Ave. 1991-2000</u>						
Fish	40,839	151,709	534,563	19,624	285,921	1,032,656
Value	\$299,210	\$660,980	\$1,615,886	\$4,630	\$417,733	\$2,998,439

Table 4. Harvest and ex-vessel value of Kuskokwim Area salmon catch by district, 2002.

<u>Lower Kuskokwim River, District 1</u>						
	<u>Chinook</u>	<u>Sockeye</u>	<u>Coho</u>	<u>Pink</u>	<u>Chum</u>	<u>Total</u>
Fish	72	84	83,463	0	1,900	85,519
Pounds	1,180	595	623,813	0	11,900	637,48
Price	0.35	0.35	0.20		0.10	
Value	\$212	\$196	\$124,762	\$0	\$1,190	\$126,360
<u>Ave. 1992-2001</u>						
Fish	14,312	39,905	422,961	4,012	173,353	654,543
Value	\$101,689	\$182,792	\$1,206,298	\$1,000	\$236,342	\$1,728,121
<u>Middle Kuskokwim River, District 2:</u>						
<u>No commercial fishery during 2001 and 2002</u>						
	<u>Chinook</u>	<u>Sockeye</u>	<u>Coho</u>	<u>Pink</u>	<u>Chum</u>	<u>Total</u>
<u>Ave. 1992-2001</u>						
Fish	548	522	11,988	4	3,663	16,725
Value	\$5,163	\$2,627	\$37,498	\$1	\$5,309	\$50,598
<u>Quinhagak, District 4</u>						
	<u>Chinook</u>	<u>Sockeye</u>	<u>Coho</u>	<u>Pink</u>	<u>Chum</u>	<u>Total</u>
Fish	11,480	17,802	26,695	0	29,252	85,229
Pounds	160,904	115,215	238,264	0	233,211	747,594
Price	0.35	0.35	0.20	0	0.10	
Value	\$56,316	\$40,325	\$47,653	\$0	\$23,321	\$167,615
<u>Ave. 1992-2001</u>						
Fish	20,539	59,466	57,935	10,256	47,587	190,844
Value	\$142,128	\$227,465	\$187,742	\$2,630	\$64,406	\$624,428
<u>Goodnews Bay, District 5</u>						
	<u>Chinook</u>	<u>Sockeye</u>	<u>Coho</u>	<u>Pink</u>	<u>Chum</u>	<u>Total</u>
Fish	979	6,304	3,041	0	3,799	14,123
Pounds	12,125	45,274	28,174	0	29,790	115,363
Price	0.35	0.35	0.20		0.10	
Value	\$343	\$15,846	\$5,634	\$0	\$2,979	\$24,802
<u>Ave. 1992-2001</u>						
Fish	2,608	38,047	20,061	3,281	13,689	77,685
Value	\$18,074	\$161,395	\$74,815	\$855	\$17,657	\$272,797
<u>Kuskokwim Area Total</u>						
	<u>Chinook</u>	<u>Sockeye</u>	<u>Coho</u>	<u>Pink</u>	<u>Chum</u>	<u>Total</u>
Fish	12,531	24,190	113,199	0	34,951	184,871
Pounds	174,209	161,084	890,251	0	274,901	1,500,455
Price	0.35	0.35	0.20	0	0.10	
Value	\$60,973	\$56,379	\$178,050	\$0	\$27,490	\$322,893
<u>Ave. 1992-2001</u>						
Fish	37,480	147,481	501,018	17,525	238,105	931,609
Value	\$267,065	\$582,010	\$1,500,715	\$4,609	\$321,888	\$2,676,287

Table 5. Harvest and ex-vessel value of Kuskokwim Area salmon catch by district, 2003.

<b>Lower Kuskokwim River, District 1</b>						
	<u>Chinook</u>	<u>Sockeye</u>	<u>Coho</u>	<u>Pink</u>	<u>Chum</u>	<u>Total</u>
Fish	158	282	284,064	0	2,764	287,268
Pounds	2,763	2,073	2,207,288	0	17,943	2,230,067
Price	0.31	0.39	0.20		0.06	
Value	\$856	\$808	\$441,458	\$0	\$1,077	\$444,199
<u>Ave. 1993-2002</u>						
Fish	9,304	30,396	356,164	3,305	136,567	535,736
Value	\$64,079	\$125,035	\$1,231,147	\$988	\$161,886	\$1,583,135
<b>Middle Kuskokwim River, District 2:</b>						
<u>No commercial fishery during 2001-2003</u>						
	<u>Chinook</u>	<u>Sockeye</u>	<u>Coho</u>	<u>Pink</u>	<u>Chum</u>	<u>Total</u>
<u>Ave. 1993-2002</u>						
Fish	328	296	8,526	2	2,516	11,668
Value	\$3,006	\$1,348	\$34,497	\$1	\$3,525	\$42,377
<b>Quinhagak, District 4</b>						
	<u>Chinook</u>	<u>Sockeye</u>	<u>Coho</u>	<u>Pink</u>	<u>Chum</u>	<u>Total</u>
Fish	14,444	33,941	49,833	0	27,868	126,086
Pounds	196,368	242,302	435,219	0	192,606	1,066,495
Price	0.35	0.44	0.25	0	0.10	
Value	\$68,729	\$106,613	\$108,805	\$0	\$19,261	\$303,408
<u>Ave. 1993-2002</u>						
Fish	19,967	55,153	51,963	7,628	46,536	181,247
Value	\$131,229	\$194,638	\$162,170	\$1,118	\$53,003	\$542,158
<b>Goodnews Bay, District 5</b>						
	<u>Chinook</u>	<u>Sockeye</u>	<u>Coho</u>	<u>Pink</u>	<u>Chum</u>	<u>Total</u>
Fish	1,412	29,423	12,658	0	5,593	49,086
Pounds	18,461	217,769	115,782	0	38,835	390,847
Price	0.35	0.44	0.25		0.10	
Value	\$6,461	\$95,818	\$28,946	\$0	\$3,884	\$135,109
<u>Ave. 1993-2002</u>						
Fish	2,353	34,758	18,377	1,850	12,217	69,555
Value	\$15,040	\$137,234	\$67,851	\$564	\$14,044	\$234,733
<b>Kuskokwim Area Total</b>						
	<u>Chinook</u>	<u>Sockeye</u>	<u>Coho</u>	<u>Pink</u>	<u>Chum</u>	<u>Total</u>
Fish	16,014	63,646	347,125	0	36,225	463,010
Pounds	217,592	462,108	2,762,638	0	249,384	1,500,445
Price	0.35	0.44	0.20	0	0.10	
Value	\$76,157	\$203,327	\$552,528	\$0	\$24,938	\$856,950
<u>Ave. 1993-2002</u>						
Fish	31,952	120,603	435,030	12,785	197,836	798,206
Value	\$213,354	\$458,255	\$1,495,665	\$2,671	\$232,458	\$2,402,403



Table 6. Peak aerial survey estimates of chinook salmon in Kuskokwim River tributaries, 1975-2003.

Year	Lower Kuskokwim				Middle Kuskokwim							Upper Kuskokwim	
	Kwethluk				Kipchuk			Salmon				Kognukluk	
	Eek	Canyon C.	Kisaralik	Tuluksak	Aniak	(Aniak)	(Aniak)	Holokuk	Oskawalik	Holitra	Weir	Cheeneetruk	Salmon (Pitka)
1975				118			94		17	71	1,114		
1976							177		126	204	2,571	5,579	1,197 1,146
1977		2,290		291				562	60	276			1,399 1,978
1978	1,613	1,732	2,417	403				289			2,766	13,667	267 1,127
1979		911							113			11,338	699
1980	2,378			725				1,186	250	123			1,177
1981		1,783	672		9,074			894				16,655	1,474
1982	230				2,645			185	42	120	521	10,993	419
1983	188	471	731	129	1,909			231	33	52	1,069		243 586
1984		273	157	93	1,409						299	4,926	1,177 577
1985	1,118	629		135					135	61		4,619	1,002 625
1986					909			336	100		850	5,038	381
1987	1,739	975		60		193		516	208	193	813		317
1988	2,255	766	840	188	945			244	57	80		8,506	501
1989	1,042	1,157	152		1,880	994		631				11,940	446
1990	1,983	1,295	631	166	1,255	537		596	143	113		10,218	
1991	1,312	1,002		342	1,564	885		583				7,850	
1992					2,284	670		335	64	91	1,822	6,755	1,050 2,555
1993					2,687	1,348		1,082	114	103	1,573	12,332	678 1,012
1994		848	1,021		1,848	1,520		1,218				15,227	1,206 1,010
1995			1,243		3,174	1,215		1,442	181	289	2,787	20,630	1,565 1,911
1996					3,496			983	85			14,199	
1997			439	173	2,187	855		980	322	1,470	2,093	13,280	345
1998		27	457		2,239	353						12,107	
1999									18	98	741	5,570	
2000					714	182		152	42	62	501	3,181	
2001								598	52	158	4,247	9,298	217 1033
2002		1,795	2,285		1,856	1,615		1,236	513	235	1,741	10,059	730 1,276
2003	1,236	2,628	654	94	3,514	1,493		1,242	528	844		11,760	810 1,371
BEG	1,460 <sup>a</sup>	1,200 <sup>c</sup>	1,000 <sup>c</sup>	400 <sup>c</sup>	1,500 <sup>c</sup>	670 <sup>b</sup>	600 <sup>c</sup>	107 <sup>b</sup>	108 <sup>b</sup>	2,000 <sup>c</sup>	10,000 <sup>c</sup>		1,002 <sup>b</sup> 1,300 <sup>c</sup>

a Estimates are from "peak" aerial surveys conducted between 20 and 31 July under fair, good, or excellent viewing conditions.

b Median of years 1975 through 1994.

c Formally established BEG (Buklis 1993).

Table 7. Historical salmon escapement data from selected Kuskokwim Area projects, 1976-2003.

Year	Operating Period <sup>a</sup>	Chinook	Sockeye	Chum	Pink	Coho
<b>Kogrukuk River Tower <sup>b</sup></b>						
1969	07/01 to 07/31	2,980	269	6,824	9	0 <sup>c</sup>
1970	07/01 to 07/31	3,868	1,695	7,726	7	0 <sup>c</sup>
1971	07/01 to 07/31	<sup>c</sup>	<sup>c</sup>	<sup>c</sup>	<sup>c</sup>	<sup>c</sup>
1972	07/01 to 07/31	1,934	714	8,981	4	0 <sup>c</sup>
1973	07/01 to 07/31	1,725	205	5,318	0	0 <sup>c</sup>
1974	07/01 to 07/31	3,724	290	4,881	5	0 <sup>c</sup>
1975	07/01 to 07/31	1,970	2,305	8,290	3	0 <sup>c</sup>
1976	07/01 to 07/31	3,261	4,433	9,170	4	0 <sup>c</sup>
1977	07/01 to 07/31	1,988	2,140	5,047	10	0 <sup>c</sup>
1978	07/01 to 07/31	6,712	746	16,514	9	0 <sup>c</sup>
<b>Kogrukuk River Weir</b>						
<b>Escapement Goal:</b>		<b>10,000</b>		<b>30,000</b>		<b>25,000</b>
1976	06/29 to 07/31	5,579	2,326	8,117	0 <sup>c</sup>	<sup>c</sup>
1977	07/14 to 07/27	1,385 <sup>e</sup>	1,637 <sup>e</sup>	19,443 <sup>e</sup>	2 <sup>c</sup>	<sup>e</sup>
1978	06/28 to 07/31	13,667	1,670	48,125	2 <sup>c</sup>	<sup>c</sup>
1979	07/01 to 07/24	11,338 <sup>d</sup>	2,628	18,198 <sup>e</sup>	1 <sup>c</sup>	<sup>c</sup>
1980	07/01 to 07/11	6,572 <sup>c</sup>	3,200 <sup>c</sup>	41,777 <sup>c</sup>	1 <sup>c</sup>	<sup>c</sup>
1981	06/27 to 10/05	16,655	18,066	57,365	6 <sup>c</sup>	11,455
1982	07/09 to 09/14	10,993 <sup>e</sup>	17,297 <sup>e</sup>	64,063 <sup>e</sup>	19 <sup>c</sup>	37,796
1983	06/23 to 09/27	3,009 <sup>c</sup>	1,176 <sup>e</sup>	9,407 <sup>c</sup>	0 <sup>c</sup>	8,538
1984	06/19 to 09/15	4,928	4,133	41,484	0 <sup>c</sup>	27,595
1985	07/06 to 09/24	4,619	4,359	15,005	0 <sup>c</sup>	16,441 <sup>d</sup>
1986	06/29 to 09/07	5,038 <sup>e</sup>	4,244 <sup>e</sup>	14,693 <sup>d</sup>	0 <sup>c</sup>	22,506 <sup>e</sup>
1987	07/15 to 09/24	4,063 <sup>c</sup>	973 <sup>c</sup>	17,422 <sup>c</sup>	0 <sup>c</sup>	22,821 <sup>d</sup>
1988	07/05 to 09/17	8,505	4,397	39,540 <sup>e</sup>	0 <sup>c</sup>	13,512 <sup>d</sup>
1989	07/07 to 08/24	11,940 <sup>e</sup>	5,811 <sup>e</sup>	39,549 <sup>e</sup>	0 <sup>c</sup>	1,272 <sup>c</sup>
1990	06/28 to 09/07	10,218	8,406	26,765	1 <sup>c</sup>	6,132 <sup>e</sup>
1991	07/04 to 09/15	7,850 <sup>e</sup>	16,455 <sup>d</sup>	24,188 <sup>d</sup>	4 <sup>c</sup>	9,964 <sup>e</sup>
1992	07/01 to 08/21	6,755	7,540	34,105	11 <sup>c</sup>	26,057 <sup>e</sup>
1993	07/02 to 09/06	12,332 <sup>d</sup>	29,358	31,899 <sup>d</sup>	0 <sup>c</sup>	20,517 <sup>e</sup>
1994	07/02 to 09/14	15,227 <sup>e</sup>	14,192 <sup>e</sup>	46,635 <sup>e</sup>	23 <sup>c</sup>	34,695 <sup>e</sup>
1995	07/02 to 09/06	20,630	10,996	31,265	2 <sup>c</sup>	27,861 <sup>e</sup>
1996	06/29 to 09/15	14,199	15,385	48,495	6 <sup>c</sup>	50,555
1997	06/28 to 09/21	13,286	13,078	7,958	0 <sup>c</sup>	12,237
1998	07/18 to 09/19	12,107 <sup>e</sup>	16,773 <sup>e</sup>	36,442 <sup>e</sup>	1 <sup>c</sup>	24,348
1999	07/06 to 09/18	5,570	5,864	13,820	0 <sup>c</sup>	12,609 <sup>d</sup>
2000	07/02 to 09/20	3,310	2,867	11,491	2 <sup>c</sup>	33,135
2001	06/21 to 09/25	9,298 <sup>e</sup>	8,773 <sup>e</sup>	30,569 <sup>e</sup>	9 <sup>c</sup>	19,387 <sup>e</sup>
2002	06/26 to 09/24	10,104	4,050	51,570	15 <sup>c</sup>	14,516
2003	06/21 to 09/20	11,771	9,138	23,411	3 <sup>c</sup>	74,754
<b>Aniak River Sonar <sup>f</sup></b>						
<b>Escapement Goal:</b>				<b>250,000</b>		
<i>Non user-configurable, one-bank expanded estimates</i>						
1980	06/22 to 07/30	56,469		1,169,470		
	08/16 to 09/12					81,556
1981	06/16 to 08/06	42,060		589,286		
1982	06/21 to 08/01	33,864		442,461		
1983	06/18 to 07/28	4,911		129,367		

- continued -

Table 7. (2 of 4)

Year	Operating Period <sup>a</sup>	Chinook	Sockeye	Chum	Pink	Coho
1984	06/16 to 07/30			266,976		
1985	06/22 to 07/28			253,051		
1986	06/26 to 07/24			209,080 <sup>c</sup>		
1987	06/22 to 07/31			193,013		
1988	06/22 to 07/31			401,511		
1989	06/21 to 07/24			243,922 <sup>c</sup>		
1990	06/23 to 08/06			232,260		
1991	06/29 to 07/29			314,166 <sup>c</sup>		
1992	06/22 to 07/29			84,269		
1993	06/24 to 07/28			13,870		
1994	06/28 to 07/28			388,163 <sup>c</sup>		
1995	06/23 to 07/23			n.a. <sup>c</sup>		
<i>User-configurable, two-bank estimates</i>						
1996	06/21 to 07/28			302,106		
1997	06/16 to 08/03			262,522		
1998	06/24 to 07/31			279,431		
1999	06/30 to 08/03			178,129 <sup>c</sup>		
2000	06/26 to 07/31			144,157		
2001	07/11 to 07/31			222,231 <sup>c</sup>		
2002	06/26 to 07/31			362,812		
2003	06/28 to 07/31			363,396		
<u>Kwethluk River</u>						
<i>Weir</i>						
1992	06/20 to 09/12	9,675	1,316	30,595	45,952	45,605
<i>Counting Tower</i>						
1996	06/21 to 07/27	7,415	1,801 <sup>c</sup>	26,049 <sup>c</sup>	2,853 <sup>c</sup>	189 <sup>c</sup>
1997	06/20 to 08/12	10,395	1,374	10,659	1,008 <sup>c</sup>	1,110 <sup>c</sup>
1998	07/24 to 08/18	120 <sup>c</sup>	120 <sup>c</sup>	720 <sup>c</sup>	4,398 <sup>c</sup>	2,367 <sup>c</sup>
1999	07/15 to 08/18	873 <sup>c</sup>	234 <sup>c</sup>	702 <sup>c</sup>	678 <sup>c</sup>	693 <sup>c</sup>
<i>Weir</i>						
2000	06/22 to 09/15	3,547	358	11,691	1,407	25,610
2001	08/08 to 09/14	69 <sup>c</sup>	32 <sup>c</sup>	324 <sup>c</sup>	634 <sup>c</sup>	22,904 <sup>c</sup>
2002	06/22 to 09/19	8,502	272	35,854	1,415	23,298
2003	06/20 to 09/14	14,474	2,928	41,812	1,902	107,789
<u>Tuluksak River Weir</u>						
1991	06/12 to 09/18	697	34	7,675	392	4,651
1992	06/24 to 09/10	1,083	129	11,183	2,470	7,501
1993	06/17 to 09/10	2,218	88	13,804	210	8,328
1994	06/29 to 09/11	2,917	82	15,724	3,487	7,952 <sup>c</sup>
2001	06/29 to 09/10	997 <sup>c</sup>	137	19,321	48	23,768 <sup>c</sup>
2002	06/10 to 09/10	1,346	82	9,958	27	11,487
2003	06/09 to 09/14	1,064	278	11,625	659	39,627
<u>George River Weir</u>						
1996	06/15 to 09/20	7,716 <sup>d</sup>	98 <sup>d</sup>	21,670 <sup>d</sup>	644 <sup>c</sup>	173 <sup>c</sup>
1997	06/15 to 09/20	7,823	445	5,907	17	9,210
1998	06/22 to 08/02	2,505 <sup>c</sup>	9 <sup>c</sup>	6,391 <sup>c</sup>	4 <sup>c</sup>	52 <sup>c</sup>
1999	06/15 to 09/20	3,548 <sup>c</sup>	39 <sup>c</sup>	11,552 <sup>c</sup>	97 <sup>c</sup>	8,914
2000	06/15 to 09/20	2,960	22	3,492	61	11,262
2001	06/15 to 09/20	3,309	24	11,601	83	14,398 <sup>c</sup>
2002	06/15 to 09/20	2,444	17	6,543	630	6,759
2003	07/02 to 09/19		11	25,005	160	31,925

Table 7. (3 of 4)

Year	Operating Period <sup>a</sup>	Chinook	Sockeye	Chum	Pink	Coho
<u>Holita River Radiotelemetry Mark-Recapture</u>						
2001	06/16 to 09/10	25,405		n.a.		63,442
2002		n.a.		n.a.		n.a.
<u>Tatlawiksuk River Weir</u>						
1998	06/15 to 07/07	970 <sup>c</sup>	0 <sup>c</sup>	5,726 <sup>c</sup>	0 <sup>c</sup>	0 <sup>c</sup>
1999	06/15 to 09/20	1,490	6	9,599	1	3,455 <sup>d</sup>
2000	06/15 to 09/20	817	0	7,044	0	5,756 <sup>c</sup>
2001	06/15 to 09/20	2,010	3	23,718	3 <sup>c</sup>	10,539 <sup>c</sup>
2002	06/15 to 09/20	2,237	1	24,542	1	11,345
2003	Not operational					
<u>Takotna River</u>						
<u>Counting Tower</u>						
1995	07/07 to 09/01	156 <sup>c</sup>	0 <sup>c</sup>	1,685 <sup>c</sup>	0 <sup>c</sup>	0 <sup>c</sup>
1996	06/24 to 07/25	402 <sup>c</sup>	0 <sup>c</sup>	2,794 <sup>c</sup>	0 <sup>c</sup>	0 <sup>c</sup>
1997	06/24 to 08/04	1,161	0 <sup>c</sup>	1,779	0 <sup>c</sup>	0 <sup>c</sup>
1998	06/28 to 07/05	21 <sup>c</sup>	0 <sup>c</sup>	45 <sup>c</sup>	0 <sup>c</sup>	0 <sup>c</sup>
1999	Not Operational					
<u>Weir</u>						
2000	06/24 to 09/20	345	4	1,254	0	3,957
2001	06/24 to 09/20	721	1	5,479	0	2,606
2002	06/24 to 09/20	316	1	4,366	1	3,984
2003	07/30 to 09/20	378	3	3,020	1	7,171
<u>South Fork Salmon River (Pitka Fork) Weir</u>						
1981	06/24 to 07/31	1,507	0	8 <sup>c</sup>	0	0
1982	07/09 to 07/30	511 <sup>c</sup>	0	39 <sup>c</sup>	0	0
<u>Kuskokwim River Fish Wheel Mark-Recapture (at Kalskag-Birch Tree Crossing) <sup>a</sup></u>						
2001	07/22 to 09/10					n.a. <sup>c</sup>
2002	06/16 to 09/10		n.a.	675,659		316,068
<u>Kuskokwim River Radiotelemetry Mark-Recapture (at Kalskag-Birch Tree Crossing) <sup>a</sup></u>						
2002		100,733				
2003		110,900 <sup>b</sup>				
<u>Middle Fork Goodnews River</u>						
<b>Escapement Goal:</b>		3,500	25,000	15,000		
<u>Counting Tower</u>						
1981	06/13 to 08/15	3,688	49,108	21,827	1,327 <sup>c</sup>	356 <sup>c</sup>
1982	06/23 to 08/03	1,395	56,255	6,767	13,855 <sup>c</sup>	91 <sup>c</sup>
1983	06/11 to 07/28	6,022	25,813	15,548	34 <sup>c</sup>	0 <sup>c</sup>
1984	06/15 to 07/31	3,260	32,053	19,003	13,744 <sup>c</sup>	249 <sup>c</sup>
1985	06/27 to 07/31	2,831	24,131	10,367	144 <sup>c</sup>	282 <sup>c</sup>
1986	06/16 to 07/24	2,092	51,069	14,764	8,133 <sup>c</sup>	163 <sup>c</sup>
1987	06/22 to 07/30	2,272	28,871	17,517	62 <sup>c</sup>	62 <sup>c</sup>
1988	06/23 to 07/30	2,712	15,799	20,799	6,781 <sup>c</sup>	6 <sup>c</sup>
1989	06/29 to 07/31	1,915	21,186	10,380	24b <sup>c</sup>	1,212 <sup>c</sup>
1990	06/19 to 07/24	3,636	31,679	6,410	3,378 <sup>c</sup>	0 <sup>c</sup>

- continued -

Table 7. (4 of 4)

Year	Operating Period <sup>a</sup>	Chinook	Sockeye	Chum	Pink	Coho
<i>Weir</i>						
1991	06/29 to 08/24	1,952	47,397	27,525	1,694 <sup>c</sup>	1,978 <sup>c</sup>
1992	06/29 to 08/25	1,903	27,268	22,023	23,030 <sup>c</sup>	150 <sup>c</sup>
1993	06/22 to 08/18	2,317	26,044	14,472	253 <sup>c</sup>	1,374 <sup>c</sup>
1994	06/23 to 08/08	3,856	55,751	34,849	38,705 <sup>c</sup>	309 <sup>c</sup>
1995	06/19 to 08/28	4,836	39,009	33,699	330 <sup>c</sup>	5,415 <sup>c</sup>
1996	06/19 to 08/23	2,930	58,264	40,450	14,509 <sup>c</sup>	9,699 <sup>c</sup>
1997	06/11 to 09/17	2,937	35,530	17,296	940	9,619
1998	07/04 to 09/13	4,584	47,951	28,905	10,367	35,441
1999	06/26 to 09/26	3,221	48,205	19,533	914	11,545
2000	07/02 to 09/22	3,295	42,197	14,720	2,530	19,676
2001	06/26 to 09/30	5,398	22,487	26,829	1,323	19,630
2002	06/25 to 09/18	3,076	22,019	30,233	1,328	27,364
2003	06/18 to 09/18	2,389	44,390	21,637	1,917	52,810
<i>Kanektok River</i>						
<i>Counting Tower</i>						
1996	7/2-7/13; 7/20-7/25	6,827 <sup>c</sup>	71,637 <sup>c</sup>	70,617 <sup>c</sup>		
1997	06/11 to 08/21	16,731 <sup>c</sup>	96,348 <sup>c</sup>	51,180 <sup>c</sup>	7,872 <sup>c</sup>	23,172 <sup>c</sup>
1998	07/23 to 08/17					
1999	Not Operational					
2000	Not Operational					
<i>Weir</i>						
2001	08/10 to 10/03	132 <sup>c</sup>	733 <sup>c</sup>	1,058 <sup>c</sup>	21 <sup>c</sup>	36,440
2002	07/01 to 09/20	5,343 <sup>c</sup>	58,367 <sup>c</sup>	42,014 <sup>c</sup>	87,036	24,883
2003	06/24 to 09/18	8,231	127,471	40,066	2,443	72,448

<sup>a</sup> The operational period is inclusive of days when passage was estimated; unless noted otherwise, less than 10 percent of the total annual escapement is estimated.

<sup>b</sup> The Kogrukuk River tower was located approximately 6 miles upstream of the current Kogrukuk River weir, and upstream of Shotgun Creek.

<sup>c</sup> Field operations were incomplete and no total annual escapement was estimated.

<sup>d</sup> Field operations were incomplete; 10 to 20 percent of the total annual escapement is based on daily passage estimates.

<sup>e</sup> Field operations were incomplete; more than 20 percent of the total annual escapement is based on daily passage estimates.

<sup>f</sup> Sonar counts for the Aniak River are generally not apportioned to species, but chum salmon dominate throughout most of the project operational period. The minimum target operational period is defined here as June 26 to July 28.

<sup>g</sup> Reported numbers are for the estimated passage at Kalskag-Birch Tree Crossing and do not account for upstream harvest.

Table 8. Aerial survey estimates by species, Kanektok River drainage, 1966-2003a

year	chinook	sockeye	coho	chum
1966	3,718	b	b	28,800
1967	b	b	b	b
1968	4,170	8,000	b	14,000
1969	b	b	b	b
1970	3,112	11,375	b	b
1971	b	b	b	b
1972	b	b	b	b
1973	814	b	b	b
1974	b	b	b	b
1975	b	6,018	b	b
1976	b	22,936	b	8,697
1977	5,787	7,244	b	32,157
1978	19,180	44,215	b	229,290 c
1979	b	b	b	b
1980	b	b	b	b
1981	b	b	69,325	b
1982	15,900	49,175	b	71,840
1983	8,142	55,940	b	b
1984	8,890	2,340	b	9,360
1985	12,182	30,840	46,830	53,060
1986	13,465	16,270	b	14,385
1987	3,643	14,940	b	16,790
1988	4,223	51,753	20,056	9,420
1989	11,180	30,440	b	20,583
1990	7,914	14,735	b	6,270
1991	b	b	b	2,475
1992	2,100	44,436	4,330	19,052 d
1993	3,856	14,955	b	25,675
1994	4,670	23,128	b	1,285
1995	7,386	30,090	b	10,000
1996	b	b	b	b
1997	b	b	b	b
1998	6,107	22,020	23,656	7,040
1999	b	b	5,192	b
2000	1,118	11,670	10,120	10,000
2001	6,483	38,610	b	11,440
2002	b	b	b	b
2003	5,430	18,010	b	2,700
<b>GOAL</b>	<b>5,800</b>	<b>15,000</b>	<b>25,000</b>	<b>30,500</b>

a Aerial surveys are those rated as fair to good, obtained between 20 July and 5 August for chinook and sockeye salmon, 20-31 July for chum salmon, and 20 August and 5 September for coho salmon.

b Survey either not flown or did not meet acceptable survey criteria.

c Chum salmon count excluded from escapement objective calculation due to exceptional magnitude.

d Some chum may have been sockeye.

Table 9. Aerial survey results, Middle Fork and Goodnews Rivers and Lakes, 1980-2003.

Year	Goodnews River and Lakes				Middle Fork Goodnews River and Lake			
	chinook	sockeye	chum	coho	chinook	sockeye	chum	coho
1980	1,228	75,639	1,975	a	1,164	18,926	3,782	a
1981	a	a	a	a	a	a	a	a
1982	1,990	19,160	9,700	a	1,546	2,327	6,300	a
1983	2,600	9,650	a	a	2,500	5,900	a	a
1984	3,245	9,240	17,250	43,925	1,930	12,897	9,172	a
1985	3,535	2,843	4,415	a	2,050	5,470	3,593	a
1986	1,068	8,960	11,850	a	1,249	16,990	7,645	a
1987	2,234	19,786	12,103	11,122	2,222	34,585	9,696	a
1988	637	5,820	3,846	a	1,024	5,831	5,814	a
1989	651	3,605	a	a	1,277	8,044	2,922	a
1990	626	27,689	a	a	a	a	a	a
1991	a	a	a	a	a	a	a	a
1992	875	10,397	1,950	a	1,012	7,200	3,270	a
1993	a	a	a	a	a	a	a	a
1994	a	a	a	a	a	a	a	a
1995	3,314	a	a	a	a	a	a	a
1996	a	a	a	a	a	a	a	a
1997	3,611	12,610	a	a	1,447	19,843	a	a
1998	578	3,497	2,743	a	731	11,632	3,619	a
1999	a	a	a	a	a	a	a	a
2000	a	a	a	a	a	a	a	a
2001	2,799	12,383	6,945	a	3,561	29,340	7,330	a
2002	1,195	2,626	1,208	a	1,470	3,475	3,075	a
2003	2,015	27,380	3,370	a	1,210	21,760	2,310	a
<b>Goal</b>	<b>1,600</b>	<b>15,000</b>	<b>17,000</b>	<b>15,000</b>	<b>800</b>	<b>5,000</b>	<b>4,000</b>	<b>2,000</b>

a Survey was either not flown or not rated as acceptable.

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